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Five conference papers covering research studies and problems related to effective utilization of manpower in southern California are presented. "The Impact of Technological Change on Employees in the Southern California Aerospace Industry," by Paul Prasow, reports a longitudinal study of social and psychological adjustment factors related to automation of machine tools and data processing in the aerospace industry. "The Minority Group Employee" by William H. Reynolds summarizes a study of Negro employees in Los Angeles. "Problems of Industrial Organizations in Manpower Planning and Forecasting," by Ben H. White, discusses manpower planning activities dealing with the "business planning--industrial relations interface" and problems of identifying manpower requirements, developing a plan, allocating resources and initiating implementation actions. "The Role of Government in Effective Manpower Planning System, which seeks to establish interagency area planning units in 70 labor markets." "Communities' and the Death of Manpower Planning," by Monroe E. Price, analyzes the fragmentation of manpower planning among social and economic groups and organizations. (EM)

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MANPOWER PLANNING AND FORECASTING

Proceedings of the Tenth Annual Research Conference

April 10-11, 1967

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MANPOWER PLANNING AND FORECASTING

This conference examines research studies and problems related to the effective utilization of manpower in Southern California. It explores such vital issues as the effects of technological change on employees in the aerospace industry, attempts of private firms to reduce unemployment in south central Los Angeles, and problems of community leaders in effectively planning and forecasting manpower requirements.

(Proceedings of the Tenth Annual Research Conference, held at the Beverly Hilton Hotel, Beverly Hills, California, April 10-11, 1967.)

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THE IMPACT OF TECHNOLOGICAL CHANGE ON EMPLOYEES IN THE SOUTHERN CALIFORNIA AEROSPACE INDUSTRY

Paul Prasow

Introduction

The Manpower Development and Training Act of 1962 directs the Secretary of Labor to evaluate the impact of automation and other forms of technological change upon workers, skill levels, and job opportunities, as well as on training and educational requirements. The Secretary has sought to meet this responsibility by supporting research projects designed to establish techniques and methods for detecting in advance the potential manpower impact of automation and technological change. An "early warning system" could greatly assist employers, unions, public officials, educators, economists, and others in coping with the problems of automation and technological change.

Various studies have attempted to evaluate the effects of automation on job content and skill requirements, but not much is known about the impact on employees experiencing such changes, particularly: (a) on their work performance and adjustment to their jobs; (b) the significance of training, education, prior experience, and personal traits; and (c) their attitudes, opinions, and feelings regarding the introduction of automated equipment.

Nature and Scope of the Investigation

Despite the vast literature on the subject of "automation," relatively little empirical research has been done on the social and psychological adjustments to changes in production. A scarcity of factual evidence still exists, particularly that obtained by careful,

systematic inquiry. To help fill this gap and to provide relevant data in formulating future training policies and programs for more effective manpower utilization, the Department of Labor, through its Office of Manpower Policy, Evaluation, and Research, entered into a three-year research contract on July 1, 1965, with the Institute of Industrial Relations at UCLA to conduct an intensive study of "automated" and "non-automated" job patterns.

The laboratory selected for this research program is the aerospace industry of Southern California, located principally in Los Angeles and Orange Counties. The six firms in the study include some of the largest in the industry, with total employment in excess of 300,000.[1] The research staff deeply appreciates the cooperation extended by officials and employees of these firms. Despite tight schedules they gave generously of their time.

The distinctive features of the project may be summarized as follows:

1. The study is concerned with two major concepts of technological change: (a) factory automation, considered in terms of the introduction of numerical control (NC) of machine tools, and (b) office automation, considered in terms of the introduction of electronic data processing (EDP) equipment.

2. The research is designed to focus primarily on the social and psychological adjustments, as well as some economic consequences of these forms of technology.

3. The investigation uses the longitudinal rather than the trend analysis method of studying patterns of change.

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1. The six firms are: Douglas Aircraft Co. (now McDonnell Douglas Corp.), Lockheed Aircraft Corp., North American Aviator, Inc. (now North American Rockwell), Aerojet-General Corp., Hughes Aircraft Co., and Northrop Corp.

Despite its connotations, this study is limited to a relatively narrow area in the vast field of the effects of technological change on manpower utilization. Excluded from consideration is the impact of technology on:

1. The general level of employment
2. industrial relations and collective bargaining
3. productivity and economic growth
4. the community and its major institutions
5. the managerial process.

While it may have broader applications, the study deals primarily with the process of employee adjustment to technological change. It focuses on such questions as:

1. Are there significant differences in education, training, and experience requirements prescribed for selected automated and nonautomated jobs?

2. How do employees perceive differences in demands made upon them as between automated and nonautomated technology?

3. Can the range of opinions, interests, aspirations, and orientations of workers in automated and non-automated jobs provide valid data for designing educational and vocational training programs linked to future job opportunities?

4. Are there important changes in manpower policies of firms which have introduced relatively large units of automated equipment in factory and office?

5. Do workers' attitudes towards automated jobs change over time? If so, what effects do such changes have on job mobility, transfers, promotions, and turnover?

6. Do employees perceive significant differences in social interaction and work satisfaction in the two job categories?

7. What data can be gathered from personnel records and management perceptions for designing retraining programs to alleviate job displacement and skill obsolescence?

8. What effects, if any, do educational attainment, past experience, and training have on worker performance and adjustment when assigned to automated technology?

In each of these areas there are, of course, wide differences of opinion among the authorities. There are also many imponderables, especially when attempting to project into the future. It is always hard to establish clear cause-and-effect relationships in such complex interactions as between man and technology. These are difficult, but not necessarily insurmountable problems.

The sections which follow will discuss some key definitions, describe briefly the research methodology, analyze some of the data, and present tentative conclusions.

Definitions

Any discussion of the effects of "automation" or the nature of "automated jobs" runs up against the inevitable problem of definition. There is no general agreement among the experts concerning the meaning of these terms. A review of the many articles on the subject, the multitude of speeches, and the volumes of testimony before Congressional Committees, reveals a hopeless conceptual confusion which prompted the Clark Senate Subcommittee on Manpower Policy to observe:

> This lack of understanding /of the impact of technological change/ stems from a confusion of tongues--a failure to define terms and a tendency to lump all technological developments under one increasingly meaningless term: automation. A paucity of statistical data and a tendency to ignore that which does not square with cherished preconceptions is also to some extent responsible. A final

> element has been the natural tendency of every expert to examine only his own part of the elephant.[2]

For purposes of this study, "automated jobs" refer to those duties arising from the introduction of Numerical Control Machines (NC) and Electronic Data Processing Equipment (EDP). "Nonautomated jobs" are defined as those classifications where the same or similar work is performed as in "automated jobs," but with conventional equipment or methods which preceded the introduction of NC or EDP.

Numerical Controlled Machine Tools

Numerical control is probably the most significant new development in manufacturing technology in over fifty years. Although the use of this method to operate machine tools and other equipment represents only one application of this new concept, it has reached its greatest effectiveness in metal working. According to available evidence, NC was developed in response to certain unique production requirements in the aerospace industry. Its evolution has been described as follows:

> Numerically controlled machine tools are a direct outgrowth of the increasing need in the aerospace field for a method of automatically producing a variety of machined parts in small production runs on general-purpose machine tools. The first numerically controlled machine tools were placed in operation in 1957. Initially, the aerospace and defense industries constituted the major market for this equipment because of the unique nature of the manufacturing requirements of these industries; this market will continue to be

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2. United States Senate, 88th Congress, Second Session: Toward Full Employment: Proposals for a Comprehensive Employment and Manpower Policy in the United States, a Report Together with Minority and Individual Views Prepared by the Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare (Washington, Government Printing Office, 1964), p. 15.

   For an exhaustive analysis of the conceptual confusion surrounding the term "automation," see Sultan, Paul E, and Prasow, Paul, "Automation: Some Classification and Measurement Problems," as contained in Labour and Automation: A Discussion of Research Methods, International Labour Office, Geneva, 1964, pp. 9-33.

> an important outlet for this equipment in the foreseeable future. However, sales of numerically controlled machine tools to other segments of the metalworking field have increased rapidly in the last few years as industry has become more aware of the economic advantages of numerical control.[3]

It was predicted there would be approximately 12,000 NC machine tools in operation at the time (1967).[4] However, this seemingly large number represents only one percent of all machine tools presently installed.[5] Various industry sources estimate that by 1970 about 75 percent of all new machine tools purchased will be equipped with NC.[6]

Numerical control is basically the operation of a machine tool by coded numerical instructions on punched tape which direct the equipment. The instructions refer to specific distance, position, motion, or function of the machine tool in relation to the part worked upon.

One way of highlighting the essential nature of the new technology is to contrast the duties of an operator under the two types of equipment. With conventional machine tools, such as a drilling or milling machine, the operator examines an engineering drawing, positions the part on the machine, and then guides the tool according to the information on the drawing. The efficient operation of the equipment depends primarily on the operator's skill. He selects the proper machining speeds and feeds, controls the flow of the coolant, and varies the work pace according to personal and production needs.

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3. Technological Change: Its Impact on Industry in Metropolitan Chicago, a report by Corplan Associates of IIT Research Institute, Chicago, 1964, p. 1.

4. Outlook for Numerical Control of Machine Tools: A Study of a Key Technological Development in Metalworking Industries, U. S. Department of Labor, Bulletin No. 1437, March, 1965, p. 2.

5. Ibid.

6. See N. 3, supra.

The duties of the NC operator are significantly different. In the first place, he no longer studies the drawing because the relevant information has been converted into appropriate code numbers by engineers or draftsmen. These numbers represent every movement, path, and action that the tool must take to properly machine the part according to the specifications on the drawing. The duties of the NC operator will vary depending upon the type of equipment in use. In some cases he may be limited to pushing buttons and monitoring a panel of gauges or lights. In other situations he attaches the cutting tool, installs the workpiece, and inserts or changes the tape. In the event of suspected malfunctioning, he may be able to "override" the automatic controls and operate the machine manually. At all times, he must remain keenly alert to insure the desired production result.

The tasks and skills associated with NC fall into three main categories: (a) operator activities, including loading the workpiece, inserting the control mechanism, monitoring the machine to insure proper functioning; (b) programming, translating the engineering drawing into a program to control the machine tool; and (c) maintenance, involving mechanical and electronic servicing, repair, and preventive maintenance activities. It is important to note that the study is concerned with all these occupational groupings and not just that of the NC operator.

Electronic Data Processing Equipment

The other major form of technological change with which we are concerned has literally revolutionized the processing of information and has profoundly affected what is called "the office industry." Conceptually the electronic computer is a fairly simple machine that can recognize and

add discrete electrical impulses. What makes it unique, and thus qualitatively different from all previous mechanical computers, is the fact that calculations can be made at unprecedented electronic speeds, and the computer can be programmed to perform a number of logical decision-making functions.

Although the electronic computer is associated primarily with automatic data processing in business, industry, and government, it has important applications in many other fields including education (teaching machines), medicine (diagnostic aids), and law (crime detection and law enforcement as well as codification and retrieval of legal data). Computers are also used in weather forecasting, language translation, control of air and surface traffic, and even in the selection of mates for companionship and marriage! However, this research project is limited to a study of the use of computers for automatic data processing in the office to deal with such business functions as accounting, inventory control, payroll computation, and equipment scheduling.

Unlike numerical control which has only slightly displaced conventional machine tools, the introduction of electronic computers in the office virtually eliminates the old manual systems of record keeping and record handling. Particularly vulnerable to technological displacement are accountants, bookkeepers, filing and ledger clerks, as well as accounting machine operators, statisticians, and typists. In their place a whole new occupational structure has been created consisting of such job categories as programmers, analysts, systems engineers, computer operators, keypunch operators, and computer maintenance personnel.

The drastic impact of the electronic computer on the office industry labor force and on methods of operation precipitated the first

major dilemma in carrying out the research study. Originally, the total population under investigation consisted of four distinct groups: (a) factory jobs using NC - automated, (b) equivalent factory jobs using conventional machine tools - nonautomated, (c) office jobs using EDP equipment - automated, and (d) equivalent office jobs using pre-EDP methods - nonautomated. The nonautomated departments in factory and office were conceived to be "equivalent" categories where analogous tasks were performed by the older techniques.

While it was relatively simple to find "equivalent" factory jobs, it was very difficult to locate "equivalent" office jobs because in many cases they no longer existed. Where the work had been taken over completely by EDP operations, it could no longer be identified as a separate entity. However, there remained limited areas where the old record-keeping methods were still in use. After careful consideration of several alternatives, the dilemma was partially resolved by combining the two "equivalent," or nonautomated, segments into one category. The total population now consists of: (a) automated factory jobs (NC), (b) automated office jobs (EDP), and (c) "equivalent" nonautomated jobs in factory and/or office.

Research Methodology

The Longitudinal Approach

During the past ten or fifteen years, there has been a growing interest in using the longitudinal as opposed to the trend analysis method for studying patterns of change in behavior. The longitudinal method refers to the analysis of individual or group change over an extended period. Each person in the sample is followed up over time. The

information obtained is analyzed in terms of individual change as well as in relation to the other case histories in the sample. Research on change and behavior patterns may also be carried out by trend analysis, a method based on a different sampling of respondents each time the survey is taken. In contrast, the longitudinal method relies on the same sample of individuals, each of whom is traced over a period of time. Whereas the longitudinal method depends on the equivalent of many individual case histories, trend analysis obtains its facts from different groups as of a single point in time. Trend analysis is static in nature; the longitudinal method is dynamic.

The following is a lucid description of the nature and value of the longitudinal method:

> We thus describe the social world by a set of variables and we study the interrelations between them. But the social world does not stay at rest and we do not want it to do so. As a result, changes over time become a third crucial area for investigation and clarification. Sometimes we want to predict from the past to the future; at other times we want to know what effect a specific interference has had either upon individual people or upon a whole social system.
>
> Finally we are interested in the whole dynamic interplay of variables which change over time for whatever reason. In its broadest meaning this is a question which history raises. Within the reach of today's empirical research it becomes a question of short range social and psychological change. Its methodological foundation is the study of repeated observations on the same individuals and collective units along a given set of variables.[7]

The longitudinal method was adopted for this study because, among other reasons, it permits evidence to be accumulated on possible divergent patterns in occupational and educational histories as between NC and non-NC groups, and, hopefully, between the EDP and non-EDP categories.

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7. Hyman, Herbert, Survey Design and Analysis, The Free Press, New York, 1965, p. vi.

The longitudinal approach also permits analysis of the effects of new technological methods in factory and office upon possible changing patterns of social interaction and attitudes toward working conditions, job duties, and sources of work satisfaction. Related research indicates that employee attitudes toward automation do change significantly over time. The longitudinal method permits a study of these changes.

The original research design contemplated three separate interviews at twelve-month intervals with the same employee sample. However, in order to lengthen the time between interviews, it was finally decided to have two interview waves, spaced 18 months apart. The first such wave was held in the fall of 1966, and the second wave is scheduled for spring, 1968.

The Sample

Data for the study were obtained primarily by personal interviews with samples of employees drawn from lists submitted by the six aerospace companies. The first wave of interviews was carried out in the latter part of 1966 and involved a total of 508 employees. Each interview lasted about one hour and was conducted on company time at or near the workplace. Supplementary data came from personnel files of the firms.

The employees were selected from the specified job categories by a systematic sampling procedure. The original lists totaled more than five thousand names from which the sample of 508 was selected.[8]

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8. Some characteristics of the study sample are summarized in Table 5, page .

The Interview

A major purpose of the interview was to determine how the worker perceived his job duties, his working conditions, his social interactions, etc. Another objective was to ascertain the relation of his education, training, and past experience to present job performance. The interview was also designed to probe the respondent's perception of the concepts "automation" and "automated jobs." Selected respondents were asked to compare their last previous nonautomated job with their present automated job in terms of the items listed above.

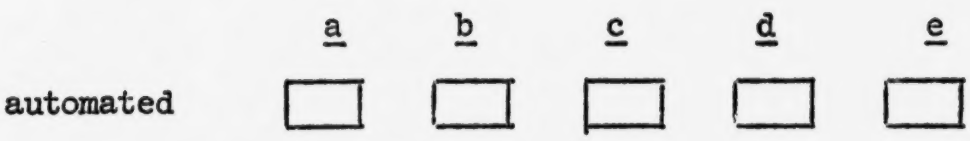
The interview followed a detailed, carefully structured schedule of questions which were asked exactly as phrased on the questionnaire and in fixed sequence. Many questions could be answered by checking one of a series of possible alternatives. Other questions were open-ended and required the employee to answer freely in his own words. The replies were recorded as fully and as nearly verbatim as possible. Standard survey procedures were followed in regard to wording, pretesting, and revising questions. The selection, training, and supervision of interviewers were carried out by the senior research staff.

Analysis of the Data

Although the survey is by no means completed, it is possible at this time to report tentative findings and some implications.

Description of Present Job

Table 1 reflects the respondents' perceptions of their jobs as to whether they are automated or nonautomated. Each respondent was asked to describe his job on a five-point scale as follows:



Points a and b refer to close or fairly close descriptions of the respondent's present job as automated. Points d and e refer to close or fairly close descriptions of the present job as not automated. Point c accommodates those who are doubtful or can't describe their job either way.

Table 1

		EDP	NC	Equ.
(a)	Automated (describes job very well)	44.2	30.2	14.4
(b)	Automated (describes job well)	23.8	20.1	16.6
(c)	Doubtful	5.2	6.7	10.2
(d)	Not automated (describes job well)	6.4	9.4	16.6
(e)	Not automated (describes job very well)	18.6	32.2	41.7
[not specified]		[1.7]	[1.3]	[0.5]
		100.0	100.0	100.0

It is of interest to note that although 68% (a + b) of the EDP respondents perceived their jobs as automated, at least one out of four (d + e) described their jobs as not automated, this despite the fact that the EDP category is generally considered the very embodiment of automation.[9]

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9. A logical explanation for this result may be that keypunch operators, who compose about 25 percent of the EDP sample, do not consider their jobs as automated.

The replies are even more striking in the NC column. Here only half the respondents perceived their jobs as automated; but another 50 percent considered their jobs as either not automated, or were doubtful. In contrast, over 30 percent of the Equivalents, the nonautomated category, described their jobs as automated. What does all this mean? One explanation is that there seems to be as much conceptual confusion among employees as among the experts. Automation means many things to different people depending upon their attitudes, feelings, and experience.

Job Preference

Interviewees were asked: "Would you rather work on an automated job or on a nonautomated job?" The following table summarizes the replies.

Table 2

	EDP	NC	Equ.
Prefers automated	59.3	50.3	40.6
Prefers nonautomated	29.7	39.6	49.2
Makes no difference	4.7	6.7	8.6
Other	6.4	3.4	1.6
	100.0	100.0	100.0

Note that over half of those in EDP and NC prefer automated jobs, whereas almost half in the Equivalent category prefer nonautomated jobs. Another interesting item is that almost 40 percent of the NC group also prefer nonautomated jobs, while 40 percent of the Equivalents prefer automated jobs. To a small percentage in all three groups it apparently made no difference one way or the other.

Experience with Automated Equipment

Respondents were asked whether they had ever operated automated equipment. Table 3 presents the replies of those who answered in the affirmative:

Table 3

	EDP	NC	Equ.
Had experience with automated equipment:	72.1	62.5	37.4

As might be expected, large majorities in EDP and NC said they had such experience. However, more than one-third of the Equivalents also considered they had operated automated equipment. The replies are based, of course, upon highly subjective perceptions as to what constitutes experience in "automated" jobs.

Feeling of Change

Those who stated they had "automated" experience were then asked whether on their first such job, the transition was considered major, minor, or was not much of a change. The replies are summarized in Table 4.

Table 4

	EDP	NC	Equ.
Major change	80.6	82.9	70.1
Minor change	3.2	9.6	5.6
Not much change	9.7	7.5	17.1
Don't know, etc.	6.5	0.0	7.2
	100.0	100.0	100.0

The significant figures are in the first rank. Over 80 percent of EDP and NC considered the change as major. Even in the Equivalent category, 70 percent felt that the transition to an automated job involved a major adjustment in life patterns. Futher analysis of the data may disclose why almost twice as many of the Equivalents, compared to the EDP and NC categories, considered that not much of a change was required on their first automated jobs.

Characteristics of the Study Sample

Some of the major characteristics of the employee sample are presented below:

Table 5

	EDP	NC	Equ.
Age (mean)	33.9	41.2	41.1
Married (percent)	67.4	87.3	79.1
Females (percent)	42.0	2.7	23.0
Education (mean yrs.)	13.6	11.7	12.1
Salary (percent $10,000, up)	30.9	23.5	15.0
Years on job (mean*)	3.4	5.7	4.2

*highest category, 10 yrs. up: EDP - 5.9; NC - 31.2; Equ. - 14.4

Those in EDP were logically the youngest in age, averaging 34 years, in contrast to 41 years for the NC and Equivalent categories. The generally lower ages of female keypunch operators may have pulled the EDP average down.

Two-thirds of the EDP were married, whereas over 87 percent of NC and almost 80 percent of the Equivalents were married. Being older, one would expect a higher percentage of the NC and Equivalent respondents to be married.

In the EDP category, 42 percent were female which is a high percentage but may be due to the fact that a large number of keypunch operators are women. As expected less than three percent of NC and only 23 percent of Equivalents were female.

The average level of education was higher in the EDP group because many had college degrees. The NC and the Equivalents were primarily high school graduates.

The best paid, of course, were in EDP. Almost 31 percent received $10,000 or more a year, whereas only 23.5 percent of NC and 15 percent of the Equivalents had attained this salary level.

The average number of years on the job was highest among NC and lowest among EDP. It is not clear whether high labor turnover among female EDP employees contributed to the low average.

Expected Earnings two Years from now

Those in EDP are not only the highest paid, but over 71 percent expect their earnings to be increased a great deal in two years, in contrast to 54 percent of NC and 60 percent of the Equivalents. Table 6 summarizes the replies on the question of future earnings.

Table 6

	EDP	NC	Equ.
Increase (great deal or somewhat)	71.5	54.4	60.9
Stable (increase slightly or stay about same)	25.0	40.9	38.0
Decline (slightly, somewhat, or great deal)	0.6	3.4	0.5
Don't know	2.9	1.3	0.6
	100.0	100.0	100.0

Current Participation in Training or Courses

Replies to the question on current participation in training are summarized below:

Table 7

EDP	NC	Equ.
15.1	15.4	16.0

It was anticipated that a large number in both the EDP and NC categories would be receiving additional training or taking special courses. On the contrary, it turned out that about the same low percentage in all three groups (15-16 percent) were currently enrolled in training courses. Further data analysis may throw additional light on the reasons for this small participation rate.

Special Training Received for Present Job

Interviewees were asked whether they had received special training to qualify for their present jobs. The replies were as follows:

Table 8

EDP	NC	Equ.
81.9	70.5	62.6

In this case the results were as expected. The largest percentage receiving such training was in EDP and the smallest was in the Equivalent category. Training or retraining of personnel is one of the key manpower adjustments associated with introducing NC or EDP equipment. Substantial specialized training is necessary to prepare employees for the efficient performance of duties arising from the newer technology.

Satisfaction with Special Training

The respondents were asked how satisfied they were with the special training received. Their replies are summarized as follows:

Table 9

	EDP	NC	Equ.
Very or fairly satisfied	69.5	69.5	72.6
Satisfied some ways dissatisfied other ways	19.2	17.1	17.1
Very or fairly dissatisfied	11.3	13.3	10.3

The vast majority in all groups (about 70 percent) said they were more than satisfied. However, about 30 percent in each category apparently had mixed feelings about the special training received. They seemed only partially convinced they were adequately trained for their jobs before assignment to them. This could indicate that one out of three respondents may have some constructive suggestions for varying the content, method, or pace of the training. Further analysis of the data may reveal more specific approaches to the question of special training.

Speed of Training

The consensus of the respondents' opinions in regard to the speed of their job training is presented in Table 10.

Table 10

(THIS JOB - THIS COMPANY)

	EDP	NC	Equ.
Much or a little too fast	12.4	25.5	12.4
About right	72.9	62.2	75.2
Much or a little too slow	14.7	12.2	12.4

Most employees considered the speed of training about right. However, a substantial number in each category felt that the pace was either too fast or too slow: 27 percent in EDP, about 28 percent in NC, and almost 25 percent in the Equivalent category. It will be of interest to correlate these latter opinions with the replies in Table 9.

Self-Confidence in Doing Present Job

The respondents' replies regarding feelings of self-confidence or ease in their present jobs are given below:

Table 11

	EDP	NC	Equ.
Much or more-or-less confident*	92.5	95.3	97.9
Within 3 months	35.5	37.6	47.1
3 months-1 year	45.4	31.5	32.6
More than 1 year	11.6	26.2	18.2
Not confident (no answer, don't know)	7.6	4.7	2.1

*and indicating time needed to attain confidence

The first question on this subject concerned the degree of self-confidence or proficiency which the employee felt in doing his work. Another question probed the length of time it took before he felt at ease on the job. The overwhelming majority said they felt very confident in performing their jobs. However, this feeling of confidence did not develop immediately. More than one-third of EDP and NC said they achieved confidence within three months and about half of the Equivalents arrived at this state within three months. Almost half of EDP said it

took from three months to one year, whereas less than one-third of NC and the Equivalents thought it took them that long. In a significant number of cases, more than a year was required for the employees to feel at ease on the job, and in some situations they still don't feel that way.

Some Initial Findings Based on Employee Interview Wave No. 1

These conclusions are tentative and may be amplified, or modified, depending upon the nature of the evidence gained from a more complete analysis of the data.

1. The concepts of "automation" or "automated jobs" represent several dimensions in the minds of those interviewed. There is obviously a wide lack of agreement on the meaning of these terms. The definitions offered by the respondents seemed to depend largely on their frame of reference, or on the degree to which they wished to register a feeling of security or insecurity about recent technological changes in their work environment.

2. There appeared to be no widespread concern about the introduction or consequences of the new technology. Most employees interviewed did not look upon automation as a threat to their job. On the contrary, a large group preferred automated to nonautomated tasks. It may well be that the lack of large-scale layoffs due to automation and the ease of retraining existing personnel for new tasks created by automation account for the relative optimism about the new developments. The apparent affluence of the economy and the rapid growth of many industries in Southern California have mitigated any fear that could be engendered by the new technology. Instead of wholesale dismissals, there

has often been the hiring of additional personnel even during conversion from the old to the new technology.

3. Technological changes have different effects depending on the nature of the new equipment. In the office there is greater impact on the labor force in terms of complete change in method of operation, job displacement, and development of new occupational categories. In the factory the consequences have not been so extensive. The older technology continues to predominate as the method in carrying out the production process.

4. Regardless of how automation is defined, adjustments to this form of technological change are considered major in the life patterns of most employees.

5. About one in six workers in the Equivalent group is being trained for new assignments, and not all of these have to do with technological change. The proportions receiving training are similar for all occupational categories.

6. There are important selective factors placing certain kinds of people in EDP, NC, or Equivalent jobs. In turn these factors imply present earning differentials and future prospects for social and economic mobility.

7. Most employees responded quite favorably to the method, pace, and content of training received. There were, of course, some differences of opinion regarding these aspects of training which should be disclosed after a more rigorous analysis of the data.

One final observation: changes in manpower requirements and occupational relations are much more gradual than is generally believed.

Even though there appears to have been some increase in the pace of technological change, the rate hasn't been so rapid as to seriously impede personnel and occupational adjustments.

THE MINORITY GROUP EMPLOYEE

William H. Reynolds

I recently published a paper, "The Experience of Los Angeles Employers with Minority Group Employees," based on a study conducted by the University of Southern California's Research Institute for Business and Economics--which goes by the acronym USCRIBE. The study was sponsored by the Management Council for Merit Employment, Training, and Research, and followed up the experience of Negroes hired from south central Los Angeles after the riots and the experience of the firms which hired them. The principal finding of the study was that Negro employees are much like other employees.

One of the more interesting comments on my paper came from Wesley Brazier, director of the Urban League in Los Angeles. Writing in the Los Angeles Sentinel, Brazier said:

> As kind of an informal footnote survey, I thought you might be interested in our white workers--the Los Angeles Urban League has several. Some of you may be planning to hire a Caucasian or two, and I think you should know what you're getting.
>
> First of all, contrary to popular opinion, whites are just as clean as we are, though there were rumors in our office that whites spit a lot, for which reason we bought several cuspidors. I can honestly say that this is not so. So far as I can tell, they never even think about expectorating, and I feel a bit embarrassed at the precautions we took in this regard.

Rereading the paper in the light of Brazier's remarks, I was surprised at the number of sentences which bore an indelible stamp of "Whitey" attitudes. Sentence after sentence read as if written by Mr. Charley himself. For example,

> Contrary to expectations, Negro employees were rated high on job performance by first-line supervisors.
>
> Expected opposition from fellow workers failed to materialize.
>
> Turnover was surprisingly low.

Replies were amazingly frank.

In effect, unknown to myself, my going-in position had apparently been that Negroes make lousy employees and that white employers must make allowances for them out of simple Christian charity. I was apparently surprised to find that Negroes make fairly good employees. I am not sure that the study taught me as much about the Negro as it did about myself.

The point, of course, is that when we think of the Negro, all of us in the United States, even those who are ostensibly men of good will, tend to think in stereotypes we learned at our mother's knee. But that was a long time ago. It is our responsibility as businessmen--and members in good standing of the white establishment--to overcome these stereotypes if we are to make full use of the wasted human resources represented by the unemployed and underemployed Negro population.

Most of what I have to say today is based on the USCRIBE study, which consists of four sets of interviews:

> First, informal interviews to gain insights and interpretations were conducted with more than twenty-five agencies and groups concerned with Negro employment. (The Urban League was one of these groups.)
>
> Second, a sample of one hundred Negroes placed in jobs in the months following the Watts riots was drawn from the files of the California State Employment Service at the Watts Service Center. Members of the staff of the Service interviewed these Negroes in their homes about their work experience.
>
> Third, fifty-nine firms which had hired Negroes from the Watts Service Center were contacted, and interviews conducted with their personnel directors or employment managers.
>
> Fourth, in each firm contacted, an interview was conducted with a member of first-line supervision who had Negroes in his work force.

The results of the study were encouraging. Almost all of the firms interviewed said they planned to hire more Negroes in the future than they had in the past. Negroes were almost uniformly rated as good or average

workers. Most of them were still on the job, and relatively few said they had encountered discrimination. About one third had moved since being employed, and most of these said their new homes were better than where they had lived before. But let me review a few of the findings of the study in more detail.

For instance, many of us think of the Negro population of Los Angeles as recent arrivals and tend to blame the things we find wrong with them on their Southern background. In fact, most of the Negroes in the Los Angeles area are long-time residents and, as length of residence is measured in California, actually deserve to be called "old-timers." Over 70 percent of them have lived here for six years or more, and 85 percent for five years or more.

Another notion is that Negroes are drop-outs from schools and lack formal education. It is certainly true that Negroes on the average do much less well than whites on tests of educational achievement. But this is not because they leave school at an early age. Most of them continue on into high school. The median amount of education completed among Negro registrants with the California State Employment Service is on the order of 11.5 years. The problem is not that Negroes do not get an education; it is that the education they get is not very good.

Some employers think of the Negro as a transient employee, likely to quit a job casually, perhaps without even picking up his final pay check. Employers who have hired Negroes report, however, that turnover among these employees is somewhat less than among their white employees. This makes a certain amount of sense. As one personnel director put it, "Negroes are like ex-convicts or people with physical handicaps. Once a Negro gets a good job, he hangs on to it for dear life."

Reluctantly, there is nevertheless some truth in this stereotype. It lies in the fact that the jobs for which Negroes are hired are often temporary and low-paid, and consequently have a built-in high rate of turnover. Negroes do not necessarily have an irresponsible attitude toward employment. It is simply that often the only work they can find is a series of temporary jobs with periods of unemployment in between. Another common syndrome is the case of the Negro who finds a job in Burbank or Glendale or Santa Monica which pays $1.65 an hour. Most of us would not consider such a job, but the Negro takes it. He soon learns that payroll deductions, travel time, and transportation costs reduce his effective rate of pay to about a dollar an hour. He quits. And so would you and I.

Some firms, when they contemplate integrating their work forces, worry about the possible reaction of first-line supervisors and fellow workers. The picture is that of a personnel director or employment manager who thinks of himself as liberal and enlightened, but who hesitates to hire Negroes because of suspected bias and prejudice at lower levels in the organization. In fact, supervisors and fellow workers are extremely unlikely to raise any objections to Negro employees. Only one of the first-line supervisors interviewed in the USCRIBE study reported any problems when his work force was integrated. He said that the Mexican-Americans under his supervision felt that the company was hiring too many Negroes.

Foremen, by the way, have a higher opinion of Negro employees than personnel directors. When asked if Negroes, over-all, were good, average, or poor workers, 40 percent of the supervisors interviewed and only 20 percent of the personnel directors said "good." (Scarcely any said "poor.") The supervisors also gave Negroes higher ratings on a list of job performance items, such as attendance, tardiness, quantity and quality of work, honest, getting along with others, and so forth.

The problem of motivation is a tricky one. It is often alleged that the Negro lacks motivation, is not aggressive enough, does not try hard enough, has opted out of the middle-class rat race. It is true that the observed behavior of some Negroes would tend to support this allegation. For instance, the Los Angeles city school system has offered free adult vocational courses at night for many years, but relatively few Negroes have taken advantage of them. Also, the Negro youth who wears a beard is clearly not seriously trying to get ahead in the world as it is.

On the other hand, anyone with Negro friends or who has worked with Negro groups comes to realize that the Negro is thoroughly hooked on the American Dream. He wants the swimming pool and the house in Bel Air as much as the rest of us. The difficulty is that he has become convinced that there is no way for him to get things of this kind. A study by the National Industrial Conference Board pointed out that many Negroes have in the past resisted higher education on the grounds that it would be useless. In the USCRIBE study, one of the Negroes interviewed had been placed in a job at Lockheed by the California State Employment Service. He said that he had noticed Lockheed advertising for help, but that it had never occurred to him that he might get a job with the company. (Lockheed, of course, like all of our major aerospace firms, is an aggressive believer in merit employment.)

Motivation is always the result of a complex interaction between the inner psychological states of an individual and his perceived environment. One of my few quarrels with the famous moynihan report on the Negro family is that it depicted the Negro male as a hopeless, defeated, unmotivated human being. This is not true. The Negro is highly motivated internally but does not see much opportunity in his environment. To the extent that motivation is a problem, the answer is not psychotherapy but opportunity.

As an example, in the USCRIBE study, 62 of the Negro employees surveyed were still on the job in which they had been placed; 32 had left. Among the 62 still on the job, 82 percent were earning more than $2 an hour. Among the 32 who had left, only 47 percent had earned more than $2 and 53 percent had earned less. Those who stayed were more highly motivated than those who had left and it is easy to see why.

As another example, I am preparing a proposal for a study of the Negro manager in the white corporation and recently checked Census figures for the number of Negroes in this occupational category. About one American out of eight is a Negro, but, looking at non-government salaried managers and officials, only one out of 270 is a Negro. As a matter of fact, in the eleven states considered western, plus Alaska and Hawaii, there were only 1,341 Negroes in this category in 1960. Many of us are motivated in our work about as much by the hope of advancement as by our paychecks; considering the odds, a Negro with this attitude would be taking a long chance indeed that his efforts would pay off.

In summary, the Negro population in Los Angeles has the following characteristics with respect to employability:

It is a stable population and has been around for a long time.

It has been exposed to more years of schooling than most persons are aware of.

The Negro is not a transient employee. Given a good job, he stays with it.

White workers do not object to working with Negroes.

White supervisors think well of Negro employees.

Given a chance, the Negro is as highly motivated as anyone.

After all these positive points, it is time to consider a few negative ones and what might be done about them.

First, while the Negro population is stable, it is concentrated in an area with relatively little industry. The lack of transportation, either public or private, compounds this problem. (Half the unemployed in south central Los Angeles do not have cars.) The Negro as of now must find work outside his own neighborhood and it is difficult for him to get out of it. Progress in fair housing is a long-term solution to this problem. The location of industry in Negro areas is also a long-term solution and may have some undesirable side-effects. A large-scale public transit system is another long-term solution. But, two things can be done immediately. Employers must recognize that Negroes will not show up at their hiring gates--why scrounge a long ride to Glendale on the off-chance of a job--and employers must consequently take steps to reach out into the Negro community to find qualified employees. The Management Council and the California State Employment Service will be glad to help. Also, is it utopian to suggest that employers might find ways to help with transportation? Local firms helped to organize car pools during World War II.

Second, as noted, many Negroes in spite of years in school have received an education so inadequate as almost to disqualify them from participation in our economic life. Chad McClellan tells of an application blank in which the applicant wrote "any kind" in the space marked "Kind of Job Applied For." "Any kind" was spelled "ani kin." Some imaginative solutions to this problem have been proposed. One company has offered, with federal assistance, to put new hires through a consecutive educational and skill training program. I am inclined to think that basic prevocational education should be provided institutionally. In any case, it seems obvious that private industry can do little in this area by itself and that massive

federal and state efforts will be required. I am doubtful that these efforts will be forthcoming.

Third, many Negroes require job and skill training. So do many whites. Expansion of on-the-job training programs is indicated. Most large employers are fully equipped to train new employees who meet certain basic standards.

Fourth, present job standards in many instances amount to de facto discrimination against Negroes. Over half the Negroes in Los Angeles do not have high school diplomas; something like 85 percent of the major employers in the area require a high school education as a basic condition of employment. Some personnel directors refer to the diploma as a "rough screening device." It tends to screen out Negroes, and is an irrelevant standard in the case of many jobs.

Finally, many employers take too strict a line on police records. Without any inferences with respect to police practices, there are many reasons why it is much easier for a Negro youth to acquire a police record than a youth from a so-called "respectable" white family. Employers should consider the nature and date of the offense, and whether the record includes convictions as well as arrests.

These are really modest recommendations. Employer reach-out to the Negro community, improved opportunities for education and training, and review of job standards do not constitute a revolutionary program. Their total effect, however, might well be revolutionary if the Negro comes to believe that there is in fact--repeat, in fact--a place for him in the American business structure.

This conference has as one of its principal concerns the full utilization of our human resources. Up to now, to conclude with an

indictment, American business has not done a very good job in the management of this particular factor of production. Failure to use the talents and energies of the Negro has constituted a grave economic loss to the nation. As Herbert Hoover would say, we have tolerated waste. It is time that we begin to act like prudent businessmen.

PROBLEMS OF INDUSTRIAL ORGANIZATIONS IN MANPOWER PLANNING AND FORECASTING

Ben H. White

As I thought about possible material for presentation in a discussion of manpower planning problems in an industrial organization, I found that I was covering a rather wide spectrum. On the one hand it included some basic business planning formulations, and on the other problems that constantly confront the industrial relations practitioners as well as the relationship of an industrial organization to the community at large. And, I suppose, if any of us were to try, we could make a list of all the problems involved and read it for the forty minutes that we have been allotted and not reach the end of the list.

During the last few months, we have given much thought to what we are doing and not doing in our company with respect to manpower planning. We have had the opportunity to attend some sessions on the subject and talk to a number of people who are engaged in that kind of work, both out here and on the East Coast. One fact stands out most strongly in our minds: while most organizations seem to recognize the need for some integration of the manpower planning processes with other resources and business planning activities, there really isn't enough being done along these lines. I know this is the case with our company and I believe it is true with many others as well. Therefore, I want to concentrate on the activities that deal largely with business planning--industrial relations interface--and I want to talk a little about what I call "Near-Term Planning" and "Long-Range Planning." I want to touch on the problems of identifying requirements, developing a plan, allocating resources, and initiating implementation actions which are carried forward to a very large extent by the industrial

relations people. Also, I want to cover briefly some tests of actual results against plans which uncovered variances, and how we can close the loop on the entire system, reshape our planning, and continue towards meeting the company goals with respect to manpower resources.

Before we get too deeply into these various problems, it might be well to ask ourselves a few rather basic questions. Why do we do manpower planning in an industrial organization, and what do we expect to get out of it? We do manpower planning, I think, for the same reason that planning in general is done. We do not have an infinite supply or a perfect balance of resources--capital, manpower, or facilities--and we want to anticipate our future and influence it. We need to address ourselves to the allocation of these resources and, because we who do manpower planning are also one of the "resources," we have to allocate our own efforts as well. In other words, those of us who are involved in manpower planning seem always to be "a day late and a dollar short" in getting done all of the things we ought to do. So we try to optimize our efforts, or maybe the word is compromise.

Manpower planning has as its prime objective the effective utilization of scarce or abundant talent in the interest of the individual employee in the company. In its broadest sense, it is a matter of anticipating the future pattern of organization and business environment, and then relating manpower requirements to these conditions. They are first stated grossly and then further defined in terms of disciplines, skills and qualifications, all of which are related to time. Realistic plans for the recruitment and development of the manpower resource are made after consideration of the external and internal factors affecting the manpower objectives of each organizational unit. I think that if we anticipate the future conditions in terms of business environment or organization or the skills we need and

then do something constructive about it, we have indeed a number of problems to which we can address ourselves.

Another very basic question is: Who should do manpower planning? We believe that it is the responsibility of the manager of every operating and staff organization in the company. Each manager continually evaluates his manpower resource in optimizing the task performance within his unit. Periodically there may be a look at his current manpower plan along with all the other organizational units in light of some common ingredient or base-line, which I call "planning assumptions." But they are really volume or sales assumptions which have been agreed upon by top management for use in the more formal periodic planning process. The responsibility for coordinating or administering this process may be assigned to a central planning organization, but it still is a basic responsibility of the operating manager to plan his manpower. Periodically, then, a set of assumptions is given to all operating organizations, and their current manpower plans are reviewed and developed to be responsive to these assumptions. After they were found to be consistent with the planning assumptions, they are aggregated into a total company manpower plan. That plan provides the manpower content for other company resource plans, which may include facilities, overhead plans, capital plans, and may well be an important element in operating sales forecasts. Through all of these activities industrial relations personnel must carry forward their supporting and implementing actions.

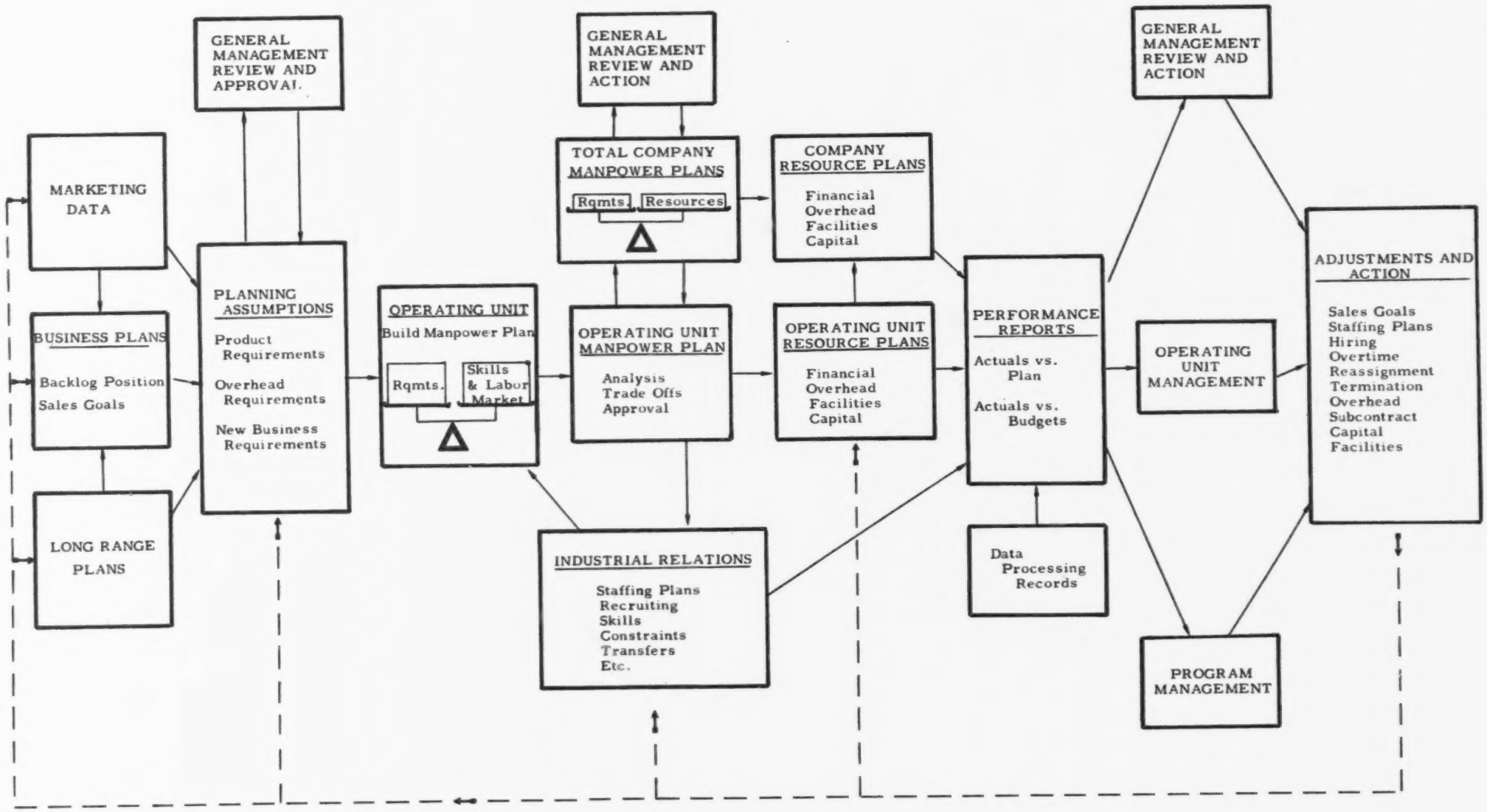
There are several different viewpoints of manpower planning. In the total activity people with different orientations are involved and are making contributions to the total process. It doesn't seem likely that the first-line supervisor or a department or division head would see the manpower problems in quite the same light as an industrial relations representative,

even though they may be in virtually daily contact with staffing problems. Also, the central business or resource planner, who is rather far removed from the day-to-day operating problems, will have a somewhat different viewpoint than either the industrial relations man or the operating manager. And certainly top management will have goals and objectives which may not always be well understood by people at different organizational levels. Moreover, I think that in addition to the internal viewpoint, you have those of the community and government. All of these viewpoints seem quite reasonable and even necessary for a complete manpower planning job.

I have prepared a flow chart to show an integrated near-term manpower planning and control system (page 36a). We will discuss near-term and long-range plans in a few minutes. I have tried to depict in this chart the various levels in the manpower planning process within a company, and how they interact in order to get the benefit of full participation of all the organizations. There are difficulties inherent in this approach because of the different viewpoints of the participants. An operating manager who must be concerned with the day-to-day operations of his department may, in working with the industrial relations practitioner, cause a staffing plan to come into being that is not consistent with the overall manpower plan of the organization of which he represents only one department. But because of incomplete communication he may not have access to information available to a higher level manager, which was part of a total company planning assumption and should have been included in his plan. On the other hand, working with the total company planning assumptions may point to an immediate requirement for an unreasonably large number of additional people in his area which he would find hard to understand, and rightly so because he has not reviewed resumes and not made offers at a pace that would support these

Chart I

Near Term Manpower Planning & Control System



requirements. Both these situations present problems as well as opportunities for improving the manpower planning process, because the solution lies in coordination and communication among all of the participants.

Chart II (page 37a) shows a technique which we have recently introduced to help us with the coordination and communication problem. It simply reflects a statement of the operating manager's staffing plan as he sees it compared to the current, approved manpower plan for his organization, and it also shows the variances. Based on the chart, a discussion with the general manager of the division and the industrial relations expert will determine what action is to be taken--either a revision of the plan approved by the general manager or making the operation manager understand the content of the plan which he may not have been considering. We feel rather strongly that a manpower plan, in order to be useful, must be a "live" document. But we also feel that before deviations in implementing actions take place, there must be an understanding of the reason for the change. Changes should only be necessary because of a change in the planning assumptions or some significant shift in staffing actions. I think it can be said that we have a "bottoms-up" and "top-down" approach working together in manpower planning. A useful system should recognize on the one hand the operating manager's viewpoint who lives with day-to-day operating problems, and on the other hand that of top management which provides the input of the plan with respect to sales goals and the specific planning assumptions including new business opportunities and the long-range objectives of the company. I don't believe that absolute consistency between the implementing actions of the operating manager and the approval plan is a requirement of a good manpower planning system, but I feel that a machinery for recognizing significant variances and providing channels for communicating changes of plans or actions is very necessary.

Chart II

ORGANIZATION: _____ DATE _____

MANAGER: _____

	MARCH	APRIL	MAY	JUNE	JULY
ON HAND					
ADDITIONS / REDUCTIONS	____	____	____	____	____
OPERATING MANAGER STAFFING PLAN					
GENERAL MANAGER APPROVED PLAN	____	____	____	____	____
VARIANCE					

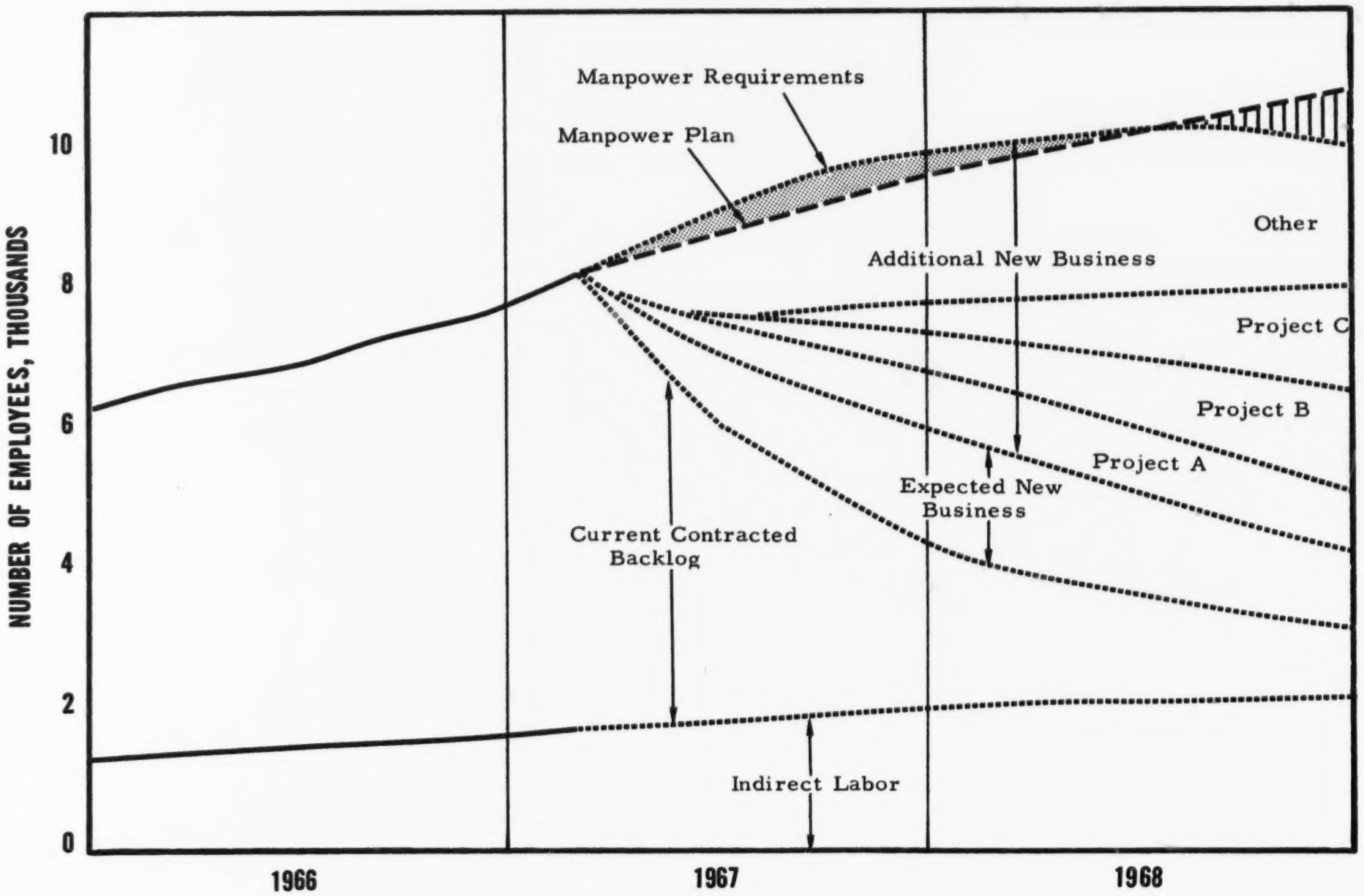
Up to now we have discussed some of the reasons why we do manpower planning, who should be involved in the planning process, and some of the problems in implementing manpower plans in the close-in period of time, usually the next several weeks. But of course, there is a longer look, what I call the near-term manpower plan and the long-range manpower plan.

Referring to the flow chart on an integrated near-term planning concept, manpower becomes an important ingredient in shaping a company's business plan, especially if the company is involved in work which requires highly skilled people or personnel in skill areas that are in relatively short supply. Manpower when considered along with marketing data becomes an important ingredient in sales forecasting and goal setting. Conversely, given certain sales assumptions manpower projections can be developed which provide a basis for formulating and considering other resource plans, including many aspects of facilities, capital, and indirect or overhead planning, and perhaps such ordinary plans as "how many desks and typewriters will be needed." In our company we use manpower plans as a basis for indirect budgets and facility plans. We have been rapidly expanding and have found that our manpower projections provide a reasonably good basis for developing building construction and new site activation plans. This is a rather simple statement concerning a relatively complex subject; but I believe the important point is that an integrated planning process, which develops data such as manpower plans as a useful, common denominator to a number of other resource plans, can help in working towards consistent company-wide goals.

Chart III (page 38a) is a graphic representation of a near-term manpower plan. I have tried to indicate the rapid drop of currently contracted backlog and the new business opportunities which build up to a

Chart III

Near Term Manpower Plan



total requirements line that is consistent with the planning assumptions approved by general management. The manpower plan line itself is the result of combined efforts of industrial relations personnel and the operating manager, who determined an optimum plan considering the risks and trade-offs and probable availability of personnel. The resulting manpower plan is more or less a forecast of actuals which we think will materialize.

Now, before we discuss the very important aspect of implementing these manpower plans, I want to talk briefly about the long-range plan. This plan may look five or perhaps ten years into the future. Generally there is far less specific information available through which the environment of those future years can be forecast; so we usually base our plans on what we can get or can develop.

Chart IV (page 39a) shows a general long-range manpower plan. It depicts expected growth in several different product lines of the company and even a new line phasing in. At the bottom of this chart I have entered numbers related to key personnel within the organization and attempted to show a growth pattern which corresponds roughly to the growth in the product lines. I have chosen these particularly generalized categories of people, because they illustrate a point that to me makes the long-range planning a worthwhile and profitable venture.

Chart V (page 39b) was prepared by the U.S. Department of Labor and shows that we are already experiencing a decline in manpower in the 35 to 44 age group, a decline which will last until after 1975. This is the age group you will want to use as a source to fill most of the positions I have noted on Chart IV. Faced with this declining supply, how will you fill these jobs? Perhaps training will help and more knowledge about sources. I don't think any of us knows the absolute answer to this problem, but we

Chart IV

Manpower Planning Elements

BUSINESS PLANS

- Long Range Plans
- Sales Plans
- Capability
- Strategies
- Financial Plans
- Return On Investment
- Resources

INDUSTRIAL RELATIONS PLANS

- Policies
- Objectives
- Manpower Profile
- Sources

ASSESSMENT

— Manpower Audit
  - Identify Individuals
    - High Potential
    - Misplaced

— Replacement Plans

— Organization Effectiveness
  - Etc. -

COMPANY RESOURCE PLANS

- Manpower
- Facilities
- Capital
- Financial
  - Etc. -

RECRUITMENT & PLACEMENT PLANS

- Hiring Plans
- Org. Staffing
- Skills
- Specification
- Turnover
- Training

DEVELOPMENT PLANS

— Organization/Individual
  - Training
  - Rotation
    - Etc. -

— Career Development

— New Skills Development

— New Source Development

WORK PLANS

- Program Plans
- Make or Buy
- Manufacturing
  - Etc. -

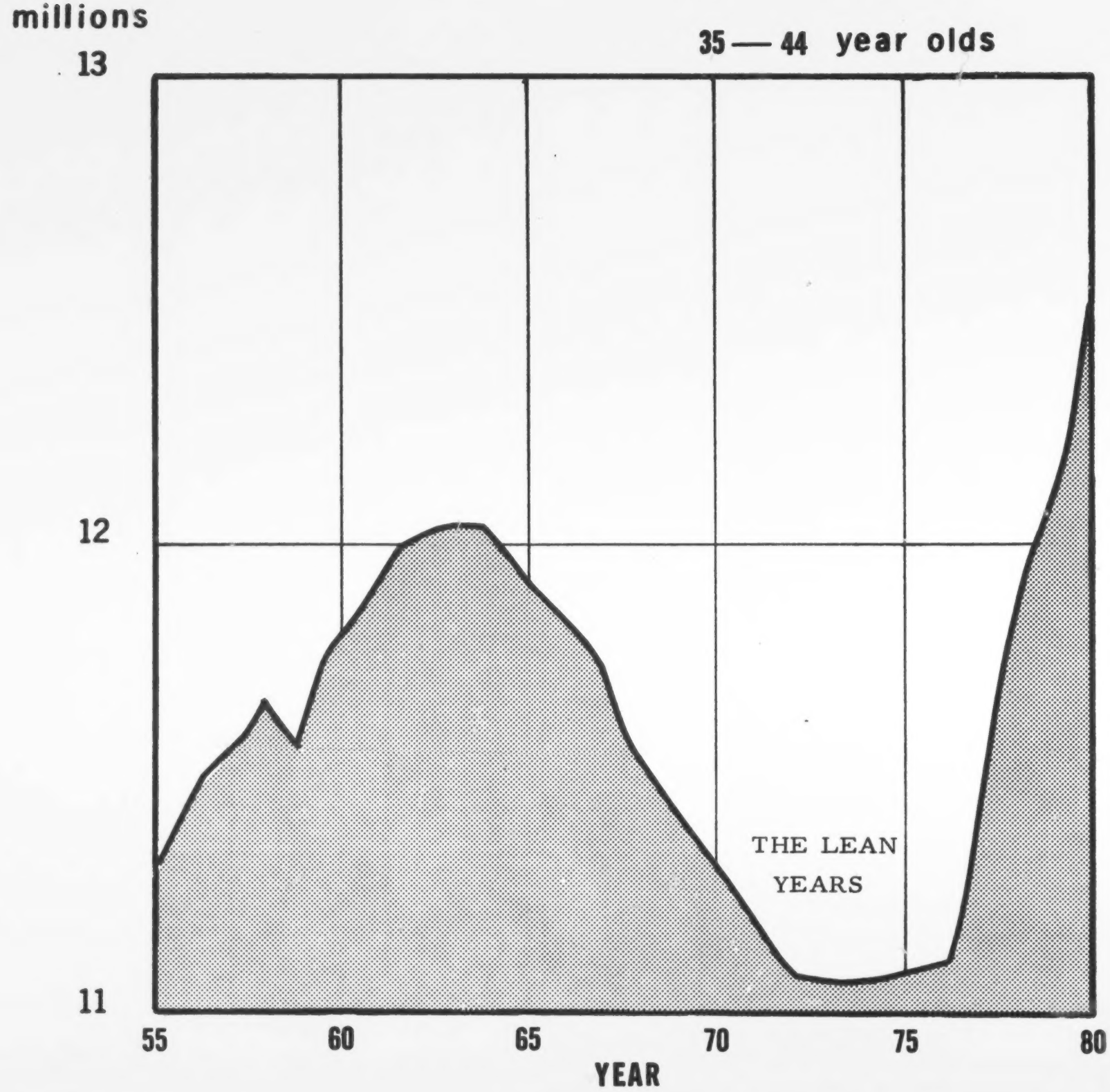
PERFORMANCE SUMMARY

- Results to Plans
  - — Organization
  - — Individual

COMPENSATION PLANS

- Position Evaluation
- Salary Planning
- Communication & Counsel

Fewer Men To Choose From



know it will happen and the company that wants to grow but does nothing about it may have a very severe manpower problem on its hands. This is a good example of the reasons for planning I mentioned earlier--the lack of an infinite supply of any resource and the desirability of attempting to anticipate the future and influence it.

It is almost unfair to use such a simple chart to show the results of a process that is as difficult as the development of product line plans projected five to ten years into the future. The people who put these kinds of plans together must draw on many sources of information, much of which is very hard to come by. They must lay out a plan or course of action as to how we can exploit that future rather than to merely forecast how it might look.

Assuming that this work has been done and reviewed, that general management concurred in the plans and we have determined a best estimate line which is superimposed on the chart, we now have a basis for making some gross estimates of manpower needs for the period covered by the long-range plan. Wherever possible during the development of the long-range product line plans, efforts are made to identify critical skills and new technologies, and in turn the phasing out of kinds of operations that we may be involved in today. Out of all of this we attempt to refine the data to identify both the quantities and the kinds of people that will probably be needed during the period covered by the long-range plan. This information then becomes a useful extension to the near-term manpower plan that we discussed a few minutes ago.

Now that we have all of this information and all of these plans, how will we use them? Let's talk a little about implementation actions now. In my opinion, industrial relations should have participated to some extent

in all of the planning actions--in the near-term period quite heavily and in the long-range period to a lesser degree. It simply isn't sufficient for personnel divisions to sit back and wait for a requisition which says, as an extreme example, get me six electromagnetic compatibility engineers by next month. Personnel should be working on its sources during all of the planning processes. Critical skills need to be identified as early as possible and plans made to tap these sources.

The implementation actions in manpower planning are an on-going activity handled by industrial relations and operating management, with the more formal periodic manpower planning activities such as the near-term plan and the long-range plan offering opportunities to recalibrate and make adjustments in the actions being taken. It is in these activities that the interface with the community takes place and that various sources for employees are developed. Typically, in an industrial organization the pacing item in implementing manpower plans is the ability to attract employees in the critical skills areas. Normally, in the lower skills areas or non-skill areas little trouble is encountered in obtaining the necessary number of people. The real problem is attracting the relatively small number of very critical skills. The importance of both the long-range plan and the near-term plan in giving the operating manager and the employment representative valuable lead time for their areas can't be over emphasized. It provides the means to undertake advertising programs, determine where the critical skills are located, and develop new sources of supply--in short, to help influence the future.

Not too long ago, partly because we haven't been doing quite as well as we should in anticipating critical personnel needs, we had to call upon some professional placement agencies for the first time in many years. The

fees involved in a service of this type, in addition to our own costs, make recruiting these key people quite expensive. Another kind of problem along these lines might be presented by a new contract which requires a fairly rapid build-up of manpower needs in the technician and assembler classifications. Let us say, for example, that we need about two hundred electronic assemblers in a matter of two to three months and we might need eight or ten antenna technicians for the same contract. The pacing skill problem obviously is getting the antenna technicians. They are much more difficult to recruit while the relatively large number of electronic assemblers do not pose as large a problem; there are many more sources for workers in that category.

Another very important aspect of implementing manpower plans is assimilation of new employees--how rapidly can a new man be made productive. Awareness of the future should help in having your program set up properly, not only for the new employee but in having operating managers better trained to work with new employees.

The number of people needed must, of course, be projected over both the short and the longer run, and it must reflect the effect of turnover and attrition, not only voluntary and involuntary terminations, but also transfers and hopefully some upgraded reclassifications. In a growth situation, your success in recruiting personnel is greatly enhanced by a good reputation in the community and an image and feeling among employees that your company is a good place to be, with ample opportunity for advancement, stability and reasonably interesting work. If your attrition rate is going up, if your acceptance rate is not as high as it should be, then probably some problem has developed that needs to be fed back to management for some corrective action. And this leads us to another important aspect of this whole area of

implementation, the areas of statistics and reports which can be very useful to management at all levels in the company but/are sometimes quite difficult to compile and maintain on a timely and meaningful basis. This includes in very general terms such items as skills inventories, manpower audits by which a profile of the work force can be developed and compared to a profile of future needs, reports of offers made, acceptances, terminations, transfers and, of course, records necessary to meet the needs and requirements of governmental agencies.

Most of the things I have talked about during this discussion are really pretty basic and old hat to most of you in personnel. I think if there is a message in this part of the discussion, it suggests taking full advantage of the lead time provided by both the long-range and the near-term planning actions in avoiding some of the problems that might otherwise arise in the day-to-day activities of keeping your organization properly staffed. The more information you have about the future manpower requirements, the better a job you can do in developing your operations and in anticipating the needs. It can even help you in negotiating a budget for the personnel department, including recruiting and advertising costs, and costs of assimilation and training. I haven't discussed training as a separate subject and I don't plan to--but this is a very large problem for every industrial organization. And it is an area that has to be constantly reviewed and looked at in the light of changing conditions, not only within the organization but also from the outside. Changing technology requires changes in skills mix within an organization and this means changes in training requirements. Training is a problem in manpower planning, not only to us as an industrial organization but also to the community at large, and here again the advantages of utilizing the near-term and long-range manpower plans

becomes obvious. They provide about the only objective means to project the training requirements into the future.

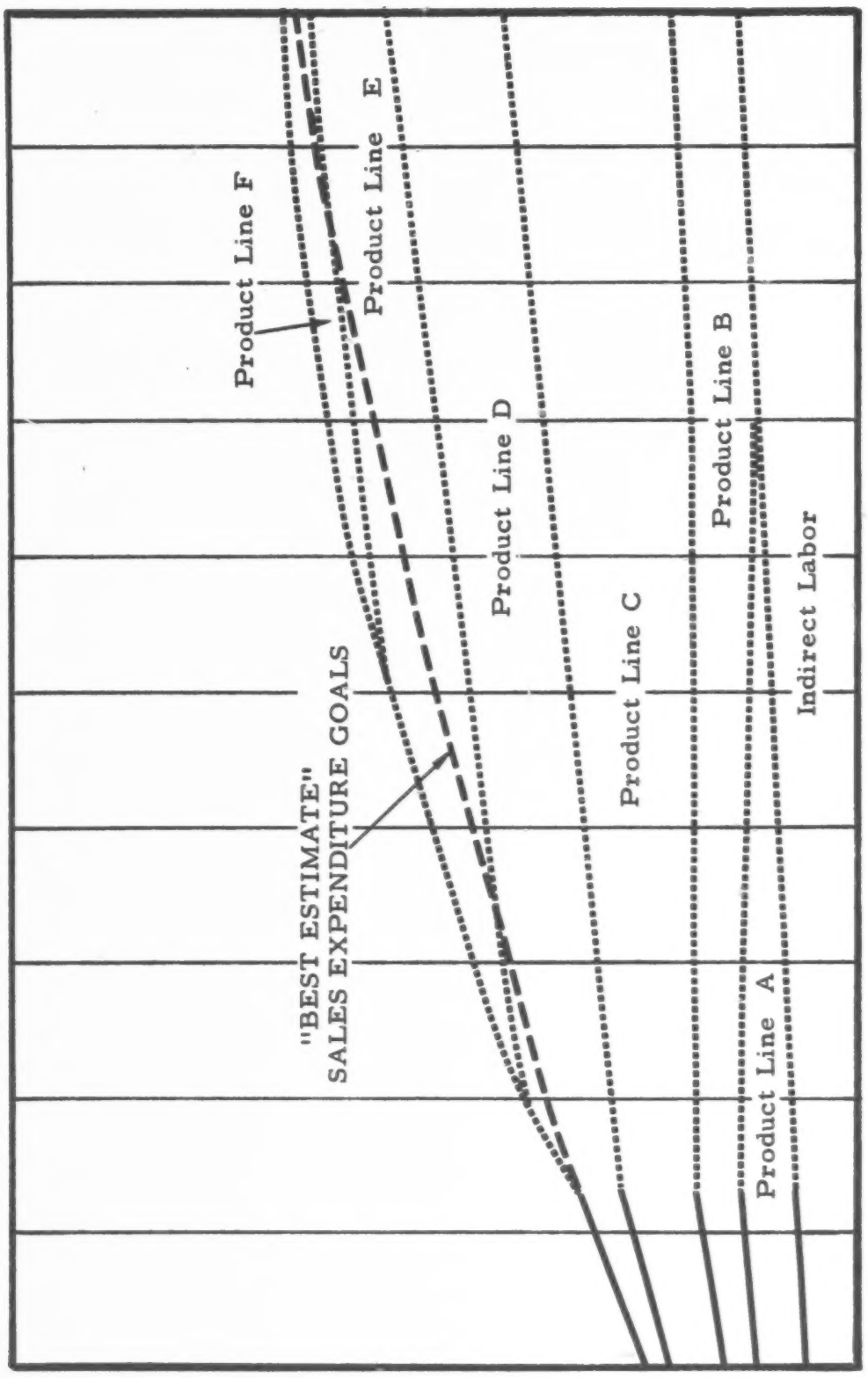
During this past half hour I have concentrated largely on a rather narrow area which I believe to be of major significance in minimizing or at least reducing to some degree the problems that we all have to live with on a day-to-day basis in the other areas of manpower planning.

Chart VI (page 44a) shows many of the elements that should be considered in a total manpower planning job--many I have not mentioned. I think that as you look at these you will agree that we have a problem of optimization--what is the best mix of these activities that we can pursue and accomplish now, and in the future?

I want to conclude by reiterating the point I made earlier: we plan because we don't have an infinite supply of any resource and it is important that we anticipate the future and try to influence it. Also, if we integrate our planning so that information and actions based upon a common set of ground rules is available to all the people involved in the manpower planning process, then perhaps we can do a little better in solving our day-to-day problems, in being a little better prepared to cope with the future, and perhaps over time, do a little better in fulfilling some of our obligations to the community.

Chart VI

Long Range Manpower Plan



Key Personnel Forecast

	66	67	68	69	70	71	72	73	74	75
General Managers	5	6	6	7	8	8	9	9	10	10
Program Directors	20	22	25	28	30	32	34	36	38	40
Dept. Managers	40	45	50	55	60	64	68	72	76	80
Work Package Managers & Supervisors	150	170	195	210	225	240	255	270	285	300

THE ROLE OF GOVERNMENT IN EFFECTIVE MANPOWER PLANNING AND FORECASTING

Paul W. Little

In June of 1966, when Senator Clark of Pennsylvania was speaking on the floor of the Senate in support of legislation to give a new charter to the public employment service, he said: "Within the past five years, Congress has enacted more far-reaching and comprehensive employment and manpower development legislation than in any similar period in history. This legislation has been responsive to the widespread public concern and interest in the optimum development and utilization of our Nation's human resources."

What the Senator was referring to was that in a few short years Congress has added substantial manpower service responsibilities through the passage of such statutes as the Manpower Development and Training Act, the Economic Opportunity Act, the Area Redevelopment Act, the Public Works Acceleration Act, and had amended the Vocational Education Act of 1963, to name a few. These statutes have brought into being or have augmented activities such as the Job Corps and the Neighborhood Youth Corps, community action projects such as Operation Teenpost and Operation Headstart, as well as on-the-job training and job training in the classroom under Title II of the Manpower Development and Training Act. Since the Senator's statement in 1966, the momentum of proliferation of human resources development programs has continued to the point where, as I was informed last week visiting the fiscal office of the Department of Labor in Washington, the Employment Service is now receiving funds from twenty-two different "pots" or funding sources.

But, lest I give the impression that this proliferation has prevented accomplishing the goals of these statutes, let me correct this thought at the outset. To the contrary, the statutes have given us instruments of manpower development which were shamefully lacking in the decades of the 40's and 50's. For example, we have been able to enroll 43,639 trainees in classroom job training courses under the Manpower Development and Training Act. In California so far, of those completing the training whom we have contacted, 78 percent have gotten jobs, and of these 87 percent were jobs in training-related occupations. Similarly, 16,500 persons have been placed in on-the-job training projects since the statutes were enacted in 1962. In addition, 3,600 youths are enrolled in nine Job Corps training centers in California, and 33,000 in Neighborhood Youth Corps projects. And I am told by our friends in the Department of Education that under amendments to the Vocational Education Act of 1963 and related statutes, 749,416 persons participated in vocational education courses in California in 1966.

What I am really saying is that these accomplishments are all the more remarkable when one realizes that they have come about in a climate of agency duplication, overlapping, and, yes, competition. Although we have a system of Youth Opportunity Centers, these precise functions are performed in some areas also by some community action agencies under Office of Economic Opportunity funding. We counsel, place, and refer welfare recipients to training under Title V of the Economic Opportunity Act, but some counties can and do set up competing and identical services. These are only some of a number of examples of duplication and overlapping, and I would suggest that where you have these conditions, costs of administration run high and there isn't as much of the tax dollar left for service to the individual as there could and should be.

Recognition of this problem of agency duplication and competition prompted the federal government to move to develop a system of interagency cooperation and coordination, which would minimize and hopefully eliminate these problems. To my knowledge, it is the first time in public administration that such a coordinative device has been attempted. If it works, it will make history. If it fails, it will point to means where more successful efforts can be made in the future. Whatever the case may be, it is a manpower planning effort in the public sector, an explanation of which, I am assured by your chairman, bears directly on the theme of this conference. Therefore, I will attempt to briefly describe how the system is being put together and how it is supposed to work.

First off, it is called the Cooperative Area Manpower Planning System. Its purpose is to bring all agencies of government together, local, state, and federal which are engaged in manpower development activities and forge a plan for each area, finding its strength in the sensible coupling and linking of the resources of the various agencies involved. The system seeks to establish interagency area planning units in some seventy of the larger labor markets in the nation.

The instrument through which these agencies get together and plan is an interagency group called the Area Manpower Coordinating Committee. In California seven such Committees are being formed in San Diego, San Bernardino-Riverside-Ontario, here in Los Angeles, Fresno, San Jose, San Francisco, and Oakland. Before describing the composition and role of the Committees, let me make the following observations:

1. It is reported that California receives some $1.5 billion in federal grants annually. In addition to highways, public health, etc., many millions of this money are spent in the human resources development programs Senator Clark spoke of. All of the programs I will talk to you about are either partially or totally federally funded.

2. Under the Manpower Development and Training Act, we have worked with interagency coordinating committees in communities throughout the state for several years. Therefore, the interagency coordinative device I will describe is not entirely new to us. But its role is different under this new planning system. Previously it considered the merits of specific job training projects under the Manpower Development and Training Act. Now it is concerned with planning in the whole field of manpower development activity, involving all agencies.

3. Since manpower development activities are federally funded, each program, even though state or locally administered, is subject to some federal control and regulation. Each member of a coordinating committee then has a direct or indirect affiliation with a federal agency.

Now, those of you who have been in the negotiation or collective bargaining arena know how difficult it can be to reach agreement when only two parties are involved. You also know how difficult the process of decision-making and agreement can be in multiple union or management negotiations, particularly when the parties are autonomous. The system of planning I am describing involved reaching agreement among many agencies at all levels of government, each of which within its own statutes and rules has degrees of autonomy. Hopefully, the fact that the parent federal agencies, which hold some or all of the purse strings, have been signatories to the planning system may instill a real spirit of give and take within the climate of individual agency autonomy. To the degree that there is real cooperation, the system may accomplish real results this year. If, however, when the discussions get eyeball to eyeball on the matter of who gets what and where, rigid autonomy sets in, the system may fall short of meeting its objectives.

I think the best way to quickly bring to your attention the enormous task before us in this interagency cooperative planning job in the various areas is to describe the programs which are represented by some twenty-five members who sit on the Committees. For example, here in Los Angeles some

five independent community action directors represent the dozens of community action programs under Title II-A of the Economic Opportunity Act. They also speak for migrant and seasonal farm workers' programs under Title III-B, and one member represents the Job Corps under Title I-A of the Act. A member of the Housing and Urban Development Agency represents the model cities programs under the Demonstration Cities and Metropolitan Development Act of 1966, and the Urban Planning and Neighborhood Development Facilities Grant programs of the Housing Act of 1954 and the Urban Development Act of 1965. In Oakland and in San Diego, representatives of the Economic Development Administration sit on the Committees because these cities qualify under the Economic Development Act.

Apprenticeship training is the responsibility of a staff member of the Division of Apprenticeship Standards, who will also back on-the-job training under the Manpower Development and Training Act, together with a member of the federal Bureau of Apprenticeship and Training where national on-the-job training contracts are involved. A representative of the federal Bureau of Works will speak for the Neighborhood Youth Corps under Title I-B, for special impact programs under Title I-D, and for adult work-training employment programs under Title II of the Economic Opportunity Act. A representative of the State Department of Education will speak for adult education programs and programs under the Elementary and Secondary Education Acts, and a representative of State Vocational Education will speak for programs under the Smith-Hughes, George Barden Act and the Vocational Education Act of 1963. These persons are also responsible for that part of Title II of the Manpower Development and Training Act, which provides for job training once it has been requisitioned by the Department of Employment. A member of the State Vocational Rehabilitation Service will also back that program,

and a member of the State Department of Social Welfare will support programs under community work and training provisions of the Social Security Act, Section 409, and work experience education under Title V of the Economic Opportunity Act. Finally, a member of the Bureau of Readjustment Education will speak for private schools, and the new, concentrated employment program will be represented by an individual from the Manpower Administrator's Office of the Department of Labor in Washington, D.C.

We, in the Department of Employment, will speak for such programs as institutional or classroom job training under Title II of the Manpower Development and Training Act, and for retraining benefits programs under the State Unemployment Insurance Statute.

Perhaps you will be critical of my remarks because I have exposed you to such details. But it is my judgment that if I spoke of the proliferation of agencies involved in human resources development in the broad-brush context, I would be short-changing you. These are the facts of life on effective manpower planning, and these agencies have the knowledge, expertise, and administrative and operational establishments to do the jobs set down by public policy and mandate as reflected by actions of Congress and the Legislature. They are the ones which can make meaningful forecasts of needs.

According to the present timetable, we are supposed to have a product before the federal establishment in Washington for review and approval in July. The product is to contain an economic, sociological, and labor-market description of the areas involved. Dr. Gaylord Pitts, who is sitting with us, will have much to do with this part of the planning process here in Los Angeles. It should include details of manpower development activities now underway, and most important of all, a means for sensible couplings and linkages of manpower programs with similar functions and

activities. If the Economic Development Act can fund a job training skill center in San Diego, why should proposals be made for the Manpower Development and Training Act to fund such a program? The task includes one of the most extensive fact-gathering tasks ever attempted in this type of planning effort. For example, here in Los Angeles under some five independent community action program agencies there are upwards of one hundred delegate agencies with such programs as Operation Teenpost or Operation Headstart which have a piece of the action. The planning system requires these activities to be recorded and form a part of the analysis which feed into the planning process and decision-making.

The guidelines setting up the system asked for the election of a permanent chairman at the first meeting of the state and area committees which our people were asked to call. Thus far, in each area meeting and at the state meeting, members of our staff have been elected chairmen and secretaries. Here in Los Angeles, Mr. Arthur Morgan, our Area Manpower Administrator, has been elected chairman and Mrs. Gertrude Harwood, who is sitting with us, executive secretary. We don't think this election means anything more than that the agency representatives realize there is an enormous lot of work to do, and they know that we, in the Department of Employment, will do our level best to do the job if we are asked.

So far there has been a bit of expression of agency autonomy at some of our area committee meetings, and some of the discussions at times have gotten a bit sticky. But in the main, agency cooperation has been excellent and considerable momentum has already been reached in the initial fact-gathering task.

Here in California, we are at least 60 days ahead of the rest of the nation in getting the system underway. In January, when I was in Washington,

I got wind of the program and a friend of mine gave me a draft of instructions to be released to the states. I duplicated the draft instructions and, at Director Peter Weinberger's request, called a first meeting of our state committee in February. By the time the instructions were finally released in mid-March, we had set up the organization of our 7 area committees and a schedule for training area chairmen and secretaries. This is in contrast to a major area in one state which has announced that it will perhaps refuse to establish the planning system. There are several reasons for this reaction. The instructions and guidelines have been late in arriving. The signatory agencies in Washington have been tardy in communicating the system's purpose and function to their affiliates in the states, if they have communicated at all. The so-called regional levels of the federal establishment which are supposed to give technical assistance to the states in setting up the system have been virtually dormant.

But I think this attitude, which may lead to rejection on the part of that state, is ill-advised. In administration, we can <u>always</u> find reasons and excuses for delaying a new program or approach; but I usually find the answer in whether to initiate or act <u>in assessing the need for the program</u>. And if the need is there and warrants action, <u>decisive</u> action, then <u>means can be found</u>. When you come down to it, it isn't too difficult a task to sneak an advanced draft off a friend's desk, study it, and get on with the task of implementation. Announcement was made last fall that the federal establishment was going to develop such a planning system; so I feel the various state administrators should have been anticipating it and make some move to ready the lines for action.

In assessing the need for such a planning effort in this case, one cannot escape the fact that there is a proliferation of agencies in the

manpower development field. One cannot turn one's back on the cold fact that there is overlapping, duplication, and agency competition. And one cannot deny that because of this proliferation the tax dollar being spent on human resources development is not going as far as it should. If one really believes in government oriented to local needs, one has no difficulty in using every possible means of initiative in attempting to breathe some sense of coordination into this all-important function of manpower development in the public sector. This coordinative effort, if done effectively, can reach deeply into the lives of our people, turning despair to hope and nothingness into human dignity.

It is for this reason that we have given planning and forecasting in the manpower development field the highest possible priority and every possible chance to succeed. I hope the momentum we have attained, in spite of frustrating failures on the part of the federal establishment in timing and communication, will insure a substantial measure of success in this planning and forecasting effort in California.

"COMMUNITIES" AND THE DEATH OF MANPOWER PLANNING

Monroe E. Price

Talking about community leaders and manpower planning is like the old shell game. It is hard to tell which community and what leader is carrying the manpower ball. That ball shifts and skirts among the leaders, and where it lands and how mashed it gets in the process determines what kind of "comprehensive manpower policy" we get--to use a term of its most fervent followers. One thing is clear: what is now the manpower policy of almost any "community" (except, perhaps, the military) is too short-sighted, too fragmentary, too ballyhoo-oriented to fulfill anyone's goals. Planning takes place in little vacuums, planning for one group occurring far removed from the planning for another group. The results are minimal, if not retrogressive, and are achieved at great expense to the government.

To begin, it might make sense to look at the shells which house, from time to time, the manpower ball--the various "communities" whose leadership allegedly determines manpower policy. Without much difficulty, it will be seen that the communities diverge sharply, have widely differing goals, and forge often conflicting manpower strategies. Los Angeles, unfortunately, can serve as a model.

Strategies of Private Communities

First there is the community probably best known to this audience: the community of the corporation, the community of industry, the leadership, much heralded, of the aerospace industries and of Chad McClellan.

Charitable motives aside and government pressure aside, its manpower goals are quite simple. There must be enough people <u>now</u> with appropriate skills and sufficient information about the job market to man the assembly

lines, the foreman slots, corporate offices, etc. That now is dynamic, of course, and means projecting manpower needs of the future. These are goals that have been talked about most recently in terms of "manpower shortages" that have, in actuality been "skill shortages." The interest of the corporate perspective is to enlarge the supply, to encourage women to enter the work force, to discourage the retirement of skilled personnel, to encourage education and training that will produce large numbers of men and women who are trained to do the job the corporation needs. This means, looked at ogreishly, that education and training should be tailored to the jobs that the corporation needs to have done, and, as a corollary, that education and training should not include information and encouragement for non-work, non-corporate styles of life. The ideal vocational school will train the ideal welder. And the ideal welder wants to be nothing but a welder, even if welding is going out of style. Finally, the corporation has a great interest in retaining flexibility in choosing between man and machine, between capital and labor. While it wants labor trained so long as it is needed, the corporate community leadership wants the privilege to move away from the labor supply whenever that is economical.

The other traditional private titan in the community is organized labor. Its perspective on manpower planning is quite different and almost as influential. If the corporation is interested in a surplus of skilled manpower, then the union is interested in a shortage. If the corporation thrives on flexibility in shifting from labor to capital, organized labor, at least in the past, has been more interested in job security. By and large manpower planning has meant training workers within the union's jurisdiction to perform the more difficult tasks that are given them. Barbers have to become men's hairstylists. Crane operators have to learn

to function with machines that are far more complex. But sophistication has altered the union's manpower platform slightly. It is now not sure whether it is the captain of certain work done in the corporation, or if it should be captain of the profits that flow from the work whether it is done by man or machine. The shift has been from job security to income security. That has been an exceedingly important step, and should be of great guidance in shaping the policy of other "communities." (I might suggest that the corporate leaders, for themselves, long ago dropped job security in favor of income security. Any treatise on the writing of executive hiring agreements will indicate that. Income security is old hat, for example, for TV stars.)

There is at least a third private "community" whose leadership is now heard in the chambers of the manpower planners; it is the leadership of the unorganized, the unemployed, the Negroes and Mexican Americans. Indeed, the now-famous concept of "maximum feasible participation of the poor" is an attempt to institutionalize the chance that these leaders, these communities, will help forge manpower policy. The strategy of this group has been increased allocation of jobs to that group which is called "unemployed" and, as a consequence, a demand for better statistics on ghetto employment, a demand for improved transportation for the unemployed, and a demand for more relevant operation of the state employment service. For a variety of reasons, the manpower strategy of this category of "communities" has, by and large, been very <u>now</u> oriented. Jobs Now has been the slogan. Chip away at the unemployment rate. The Devil finds work for idle hands. Expand Manpower Development and Training Act programs. Attract industry into the ghetto.

Finally, there are some exceedingly important but still hazy "communities" that have leaders and are actively engaged in manpower planning. Their impact is now only dimly felt, and their attitudes find almost no reflection in emerging aggregate manpower planning. The most identifiable of these unidentifiable communities in Los Angeles are the great herds of California's young people, known in the trade as the teenie-boppers or longhairs or acid heads, depending on their present age, affiliation, and interest. These are the "workers" of today and tomorrow; indeed they are so earmarked by the Bureau of Labor Statistics. And they will have a potentially enormous influence on the work and leisure patterns of the people who surround them and follow them. Renata Adler described this community in the New Yorker as follows:

> One of the curious things about the young longhairs on the Strip these days is the special air with which they wait around; they seem already to inhabit some sort of leisure-time frontier, where all social problems have been solved and there remain no injustices but the ones in nature, where there is nothing to do but to wait in some small cafe for the coming of the Word.

The manpower planners, the statisticians, the great projectors of manpower supply have not yet developed even a vocabulary to describe the relationship of this large group to manpower needs. If there is a general for this group, we don't know what his manpower strategy is; nor do we know how much attention will have to be paid to it.

Strategies of Public Communities

In addition to these private strategies, there are also, in broad outline, the strategies of the public representatives. The federal government, at one level, may be interested solely in having a certain job done, at the best cost in terms of money and time and without regard to location in the United States. The interest of California and of Los Angeles are,

of course, more parochial; their manpower policy, largely reflected by investment in education, consists in part of developing what is considered to be an appropriate labor force for capital investment and for attracting contracts.

But by and large, the public manpower policy is responsive rather than creative. To be sure, there is an exceedingly important neutral public function achieved through the collection and distribution of data and that surely is the linchpin of manpower planning. But the actual programs, institutional and on-the-job training, Job Corps, the state employment service, the McClellan committee are substantially responsive to the demands of the various private "communities."

If there is community pressure for reducing the unemployment rate in the ghetto, then that is what will occur. If the aerospace companies chillingly report that production will decline because there are insufficient skilled people to perform the needed tasks, then that is the way the government's manpower policy will turn. Manpower planning at present is essentially a political task, and it is political in response to well-defined traditional group respresentatives in the community. Manpower advisory boards are the best balanced tickets around. They always have three industry people, three union people, one Negro, and two public members. Each "community" has its own federal program, with a local counterpart. There is little commonalty between the Teen Post and the BAT advisory committee, for example.

In short, there is no public manpower strategy. There is no public manpower policy. There is only (and there are those who might argue that it should be) a paste-job of private pressures and public yearnings. There

is nothing wrong with a responsive manpower strategy if all of the correct pressures are brought to bear. But that is not the case either.

For one thing, no one represents the young people on Sunset Strip, even though it is their manpower we are talking about for the next few years. For another, no group represents a meaningful way those who have determined that labor force participation is not the correct style of living and that work, in the sense of a job that has to be done to enjoy leisure, is not the best way to distribute income. No one represents those who in the future might prefer income security to job security. No one represents the best interests of those who are right now on the margin, long-term unemployed, or employed in fringe jobs, who could drop out of the labor force any day. No one represents those people who are at work but who should be in school.

No one, in short, truly represents the individual and his strategy. His influence may be minor and fumbling. But the aggregate of responses to various claims for his services, for various offers to educate or to train, to relocate or to stay put, to join the army and see the world, or to stay in Westwood and become a doctor--the aggregate response is extremely important.

What he should do, in his best interest, is the concern of virtually no one. For it may be that, if he is unemployed, he should not work. If he is in the city, he should be told to go to a smaller town. If he has children, he should be paid to stay with his family. Even if he is 23 or 24 or 30 or 40, he should be encouraged to go to school.

But that is not the present manpower policy. Our policy is tested, almost wholly, by its ability to reduce the unemployment rate: to get people into work, to match men with jobs. That is the way a personnel director is evaluated, that is what is expected of the public employment service.

Let me project one consequence of present manpower planning. It is now clear that government policy in the housing market in the late 1940's and early 1950's sharply contributed to the rigid patterns of residential segregation that now exist. Vast public housing, largely for Negroes, was built in the city center. At the same time, federally insured housing, almost wholly for the white middle class, spread inexorably through the suburbs. Segregationist tendencies were encouraged--indeed it could be said they were subsidized--by federal programs. After the expenditure of billions we are left with rotten city cores, which will require more billions to revitalize. Government expenditures, responding to community pressures, without foresight and without appropriate planning, were fatal in their content.

In manpower planning, the result is the same. Instead of massive public housing for Negroes, there is an occupational equivalent: the massive movement into low-skill and often dead-end jobs. Most federal manpower programs encourage this movement.

At the same time, federal spending, federal contracts, particularly in the space field, yield the occupational equivalent of the move to the suburbs. The jobs for the largely white middle class are now fancier than they ever were before. Thus, the immense gulf between black and white, between unemployed and employed, between laborer and professional, between the organized and unorganized becomes wider and wider.

And it is a myth to think that this is the best for the next generation. For occupational mobility will be as difficult for the Negroes in "public employment," as government-created low-level jobs are known, as geographical mobility has been for the children of public housing projects.

Unfortunately, this growing gap is not of immediate concern to present community leaders, regardless of the community concerned.

There is another consequence to the responsive public manpower policy. Because public manpower policy reacts rather than innovates, it is immensely resistant to change. The future should be the main concern of the planner; but he is locked into the present. Far from the ability to free his mind of narrow patterns, he is bound to ancient habits. There should be a complete rethinking of the validity of work as a way to occupy time and obtain income. The National Commission on Technology and Automation did little more than scrape the surface. Yet there is far too little thought, and almost no experimentation in this area.

Perhaps the ghetto, with high unemployment and low labor force participation, should be taken as the model of the employment situation of the future. There is less and less work to be done and a greater need to obtain alternative patterns of finding income and filling time. Rather than ruin the model by placing people in jobs, the government should think of more creative ways to exploit the current framework.

In a way, the ghetto is ahead of the rest of the nation. It is an area which, in a certain sense, has borne the burden of technological change. We should test in the ghetto what a government can do when work has become obsolete.